

What is Claimed:

1. A speech coder comprising:

a control circuit which is effective to receive a coding delay and a designated bit rate as control data and which generates control parameters on the basis of the control data; and

5 a speech coding circuit which codes an input speech signal, on the basis of said control parameters, into an input excitation signal, the coding performed so as to minimize distortion of a reproduced speech signal with respect to the input speech signal, the reproduced speech signal obtained by exciting a linear prediction synthesis filter prescribed
10 by a set of linear prediction coefficients of the input speech signal.

2. The speech coder as claimed in claim 1, wherein said control parameters include frame length and subframe length.

15 3. The speech coder as claimed in claim 1, wherein said control circuit generates said control parameters based on a computational complexity in addition to said coding delay and said designated bit rate.

20 4. The speech coder as claimed in claim 3, wherein said control parameters include frame length and a subframe length.

5. A speech coding method for coding an input speech signal on the basis of control parameters, comprising:

receiving a coding delay and a designated bit rate as control data, and generating said control parameters on the basis of the control data; and

5 determining, based on said control parameters, an input excitation signal, the determining performed so as to minimize distortion of a reproduced speech signal with respect to the input speech signal, the reproduced speech signal obtained by exciting a linear prediction synthesis filter prescribed by linear prediction coefficients of the input speech signal.

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6. The speech coding method as claimed in claim 5, wherein said control parameters include a frame length and a subframe length.

15 7. The speech coding method as claimed in claim 5, wherein said receiving step further receives computational complexity as said control data.

20 8. The speech coding method as claimed in claim 7, wherein said control parameters include a frame length and a subframe length.

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9. A speech decoder for restoring a reproduced speech signal from received coded speech data, the received coded speech data including an excitation signal, linear prediction synthesis filter coefficients, a designated bit rate and a coding delay, the decoder comprising:

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a control circuit for receiving said designated bit rate and said coding delay as control data and generating control parameters on the basis of the control data; and

5 a speech decoding means for first restoring the reproduced speech signal by second restoring the excitation signal and the linear prediction synthesis filter coefficients, the second restoring performed by decoding the received coded speech data based on the control parameters, the first restoring further including exciting a linear prediction synthesis filter prescribed by the linear prediction synthesis filter coefficients, on the basis of the excitation signal.

10 10. The speech decoder as claimed in claim 9, wherein said control parameters include a frame length and a subframe length.

15 11. A speech decoding method of restoring a reproduced speech signal from received coded speech data, the received coded speech data including an excitation signal, linear prediction synthesis filter coefficients, a designated bit rate and a coding delay, the method comprising:

20 generating control parameters on the basis of the designated bit rate and the coding delay; and

first restoring a reproduced speech signal by second restoring the excitation signal and the linear prediction synthesis filter coefficients, the second restoring performed by decoding the received coded speech data based on the control parameters, the first restoring further including

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exciting a linear prediction synthesis filter prescribed by the linear prediction synthesis filter coefficients, on the basis of the excitation signal.

5 12. The speech decoding method as claimed in claim 11,
wherein said control parameters include a frame length and a subframe length.

10 13. A bitstream generated by coding an input speech signal,
said bitstream comprising:
a first bitstream indicative of an input excitation signal
designed so as to minimize the distortion of a reproduced speech signal
with respect to the input speech signal, the reproduced speech signal
obtained by exciting a linear prediction synthesis filter prescribed by
linear prediction coefficients of the input excitation signal, on the basis of
15 the input excitation signal;
a second bitstream indicative of a coding delay; and
a third bitstream indicative of a designated bit rate.